PATENT COOPERATION TREATY

PCT

REC'D 0 8 MAY 2006

WIPO   PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PU040011	FOR FURTHER ACTION	See Form PCT/PEA/416
International application No. PCT/US2005/001718	International filing date *(day/month/year)* 20.01.2005	Priority date *(day/month/year)* 20.01.2004

International Patent Classification (IPC) or national classification and IPC
INV. H04N5/222 G11B27/34

Applicant
THOMSON LICENSING S.A.et al

---

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

    a. ☒ *sent to the applicant and to the International Bureau)* a total of 5 sheets, as follows:

    ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

    ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

    b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

---

4. This report contains indications relating to the following items:

    ☒ Box No. I   Basis of the report

    ☐ Box No. II   Priority

    ☒ Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

    ☐ Box No. IV   Lack of unity of invention

    ☒ Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

    ☐ Box No. VI   Certain documents cited

    ☐ Box No. VII   Certain defects in the international application

    ☐ Box No. VIII   Certain observations on the international application

---

Date of submission of the demand 10.08.2005	Date of completion of this report 05.05.2006
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Brod, R Telephone No. +49 89 2399-8962

Box No. I   Basis of the report

1. With regard to the **language**, this report is based on

☒   the international application in the language in which it was filed

☐   a translation of the international application into , which is the language
of a translation furnished for the purposes of:
    ☐ international search (under Rules 12.3(a) and 23.1(b))
    ☐ publication of the international application (under Rule 12.4(a))
    ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-6, 8-14   as originally filed

7   received on 17.08.2005 with letter of 10.08.2005

Claims, Numbers

1-17   received on 17.08.2005 with letter of 10.08.2005

Drawings, Sheets

1-7   as originally filed

☐   a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐   The amendments have resulted in the cancellation of:
    ☐ the description, pages
    ☐ the claims, Nos.
    ☐ the drawings, sheets/figs
    ☐ the sequence listing *(specify)*:
    ☐ any table(s) related to sequence listing *(specify)*:

4. ☐   This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
    ☐ the description, pages
    ☐ the claims, Nos.
    ☐ the drawings, sheets/figs
    ☐ the sequence listing *(specify)*:
    ☐ any table(s) related to sequence listing *(specify)*:

*   *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. III   Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

    ☐   the entire international application,

    ☒   claims Nos. 3-17

    because:

    ☐   the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination *(specify)*:

    ☐   the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

    ☐   the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed *(specify)*.

    ☒   no international search report has been established for the said claims Nos. 3-17

    ☐   a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

        ☐   furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

        ☐   furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

        ☐   pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13*ter*.1(a) or (b) and 13*ter*.2.

    ☐   a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

    ☐   the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

    ☒   See separate sheet for further details

Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

   Novelty (N)   Yes: Claims   1-2

                                   No: Claims

   Inventive step (IS)   Yes: Claims   1-2

                                   No: Claims

   Industrial applicability (IA)   Yes: Claims   1-2

                                   No: Claims

2. Citations and explanations (Rule 70.7):

   see separate sheet

<u>Re Item III</u>
**Non-establishment of opinion with regard to novelty, inventive step and industrial
applicability**

The subject-matter of claims 3 to 17 (teleprompter ect.) has not been searched.

<u>Re Item V</u>
**Reasoned statement with regard to novelty, inventive step or industrial
applicability; citations and explanations supporting such statement**

Reference is made to the following documents:
D1: US2003/0214605 (Snyder)
D2: WO03/014949 (Holtz)

D3: TURNER R R: "1,001 QUESTIONS TO ASK BEFORE DECIDING ON A
     NONLINEAR VIDEO EDITINGSYSTEM" SMPTE JOURNAL, SMPTE INC.
     SCARSDALE, N.Y, US, vol. 103, no. 3, 1 March 1994 (1994-03-01), pages 160-
     173, XP000445583 ISSN: 0036-1682
D4: US-A-5 864 366 (YEO ET AL) 26 January 1999 (1999-01-26)
D5: US 2003/218696 A1 (BAGGA AMIT ET AL) 27 November 2003 (2003-11-27)
D6: EP-A-0 915 469 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 12 May
     1999 (1999-05-12)

The document D1 is regarded as being the closest prior art to the subject-matter of
claim 1. It concerns an auto keying technique for use in an automated production
system similar to that described at Pages 2-3 of applicants' specification. As best
described at paragraph 0071 of D1, the production system stores one or more
configuration parameters to a configuration file, with each parameter specifying
attributes of a desired key effect. The parameters can include the identity of the
background media source arid the fill source for example. Execution of a key parameter
serves to route the selected key source to the keyer for so that upon selection of the
keyer by a director, the desired scene appears.
The subject-matter of claim 1 differs from this known rundown list in that the memory
objects (S-MEMs) of applicants' claimed invention represent intelligent objects that
store the state of a particular production device, such that upon execution of the 5-
MEM, the production device enters a known static state. The configuration parameters

of Reference D1 do not store the state of a particular piece of production equipment. At best, the configuration parameters described in Paragraph 0071 of D1 specified desired properties of a key effect, but do not themselves cause execution of effects by the keyer. The keyer is selected separately from accession of the configuration parameters, as evidenced by the separate steps of parameter accession during step 109 of FIG, 1 and keyer selection during step 112. (See Paragraph 75 of D1). Indeed, the accession of configuration parameters, by itself in Reference D1 doesn't alter the state of keyer because no keyer is designated to receive such parameters until keyer selection occurs later during step 112. D1, paragraph 124, teaches the use of a show template in the form of a file having a filename for generic electronic rundown, being however bare of any separate S-MEMS.

The subject-matter of claims 1 and 2 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as providing intelligent objects for the automatization of the show production.

The solution to this problem proposed in claims 1 and 2 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The invention provides templates for the operation of television production devices, the templates being represented by parametrized state memory objects for producing a show, e.g., a television show, using at least one production device, such as a television camera, a videotape recorder, video switcher and the like having a plurality of states, each state corresponding to an operation executable by that device. Each state of the at least one production device is stored as a state memory object, referred to as an S-MEM, execution of each S-MEM causes an associated production device to execute at least one operation to generate a scene. The S-MEMS undergo parameterization in accordance with the scene each S-MEM generates, thus allowing a director to select those S-MEMs associated with a particular type of scene. In response to selection of a particular S-MEM in accordance with its parameterization, the S-MEM undergoes execution to cause the least one production device to execute the operation associated with that S-MEM to yield the scene of interest.

D2 also does not teach or suggest the features of applicants' invention recited in newly submitted claims 1-17. At best, Reference 132 describes a system and method for

receiving multimedia Content produced by an automated production system for delivery over the Internet or similar type of data network. A show rundown undergoes execution by an automated video production system to produce a traditional show, in the form of a production file. Concurrently with the execution of the show rundown, a shadow rundown also undergoes execution to produce an electronic show from which segments undergo selection for an on-demand show.

D3 disclose a parametric post production and editing with an EMC storyboard.
D4 discloses shots and collections of frames with anchorpersons for a scene.
D5 discloses grouping together the most often shared scenes with anchor persons of scenes.
D6 discloses parametrized scene editing including post production with fades, wipes etc.

source material (video, audio, etc.) having a fixed run-time.

However, for a segment that involves live talent, use of an approximate duration is preferred. The approximate duration aids in predicting the run time of the show, but the progression to the subsequent event will always requires manual initiation to accommodate the timing variations that are inherent in the use of live talent.

FIGURE 3 depicts a block schematic diagram of a television production system 300 embodying the present principles for enabling automated production of a television program, such as a television news program. At the heart of the system 300 lies a context-sensitive control panel 302 described in greater detail in FIG. 4, for allowing the director 18 individually to control multiple production devices by the use of S-MEM as discussed above. Such production devices can include one or more video playout devices, such as a server 305 comprising part of an existing Digital News Production System 306. Other devices controlled via the control panel 302 can include one or more television cameras 306, associated camera robotics 308, a character generator 310, and a still store 312 for storing still video images.

Video signals from the cameras 306, the character generator 310, and the still store 312 pass to a video switcher 313 that selectively switches among input signals under the control of the control panel 302. In the illustrated embodiment, the switcher 313 can to perform various digital video effects, obviating the need for a standalone DVE device. However, the system 300 could include one or more separate DVEs (not shown). The switcher 313 provides both a video program output for transmission and/or recording, as well as a preview output for receipt by a preview monitor (not shown). While not illustrated, the video switcher 313 can also receive video from one or more devices, such as videotape recorders, video cartridge machines, and/or satellite receivers, to name but a few.

The control panel 302 also controls an audio mixer 314 that receives audio input signals from a digital cart machine 316 as well as one or more studio microphones 318. Further, the audio mixer 314 can receive input signals from one or more devices, such as the playback server 304, as well as one or more audio tape recorders (not shown) and/or one or more satellite receivers (not shown). The audio mixer 314 provides a program audio output, as well as an intercom output and an output for audio monitoring, by way of a monitor speaker or the like (not shown).

1   1.   A method for controlling at least one television production device, comprising
2   the steps of:
3   (a) establishing a plurality of states of the at least one production device, each state
4   corresponding to at least one operation executable by the device;
5   (b) storing the states of the at least one production device as corresponding memory
6   objects which upon execution cause the one production device to execute the at least one
7   operation, which results in generation of a scene;
8   (c) parameterizing each memory object in accordance with characteristics of the scene
9   that results from execution of that memory object,
10   (d) responsive to selection of at least one memory object selected in accordance with
11   the parameterization thereof, executing each selected memory object to cause execution of
12   corresponding at least one operation by the one television production device to yield at least
13   one scene of interest.

1   2.   Apparatus for controlling at least one television production device, comprising
2   the steps of:
3   means for establishing a plurality of states of the at least one production device, each
4   state corresponding to at least one operation executable by the device;
5.   means for storing the states of the at least one production device as corresponding
6   memory objects which upon execution cause the one production device to execute the at least
7   one operation, which results in generation of a scene;
8   means for parameterizing each state memory object stored in said storage means in
9   accordance with characteristics of the scene that results from execution of that state memory
10   object,
11   means responsive to selection of at least one state memory object selected in
12   accordance with the parameterization thereof, executing each selected state memory objects to
13   cause execution of corresponding operations by the one television production device to yield
14   at least one scene of interest.

1   3.   The method according to claim 1 further comprising the steps of
2   establishing a plurality of states of a plurality of production devices, each state
3   corresponding to at least one operation executable by each device;

AMENDED SHEET

4   storing the states of the plurality of production devices as corresponding memory

5   objects which upon execution cause the respective production devices to execute the at least

6   one operation associated with the memory object which results in generation of a scene;

7   parameterizing each memory object in accordance with characteristics of the scene

8   that results from execution of that memory object,

9   responsive to selection of a set of memory object selected in accordance with the

10   parameterization thereof, executing each selected memory objects in the set to cause

11   execution of corresponding operations by the associated production device to yield at least

12   one scene of interest.

1   4.   The method according to claim 1 further comprising the steps of:

2   repeating the steps of (a)-(c) for each of a plurality of scenes; and

3   responsive to selection of at least a set of memory objects selected in accordance with

4   the parameterization thereof, executing the selected memory objects to cause execution of

5   corresponding at least one operation by the one television production device to yield the

6   plurality of scenes.

1   5.   The method according to claim 1 further comprising the step of altering said at

2   least one memory object under operator control.

1   6.   The method according to claim 1 further comprising the step of executing a

2   plurality of memory objects responsive to selection of selection of different scene appearances

3   by an operator.

1   7.   A method for producing a television program via a plurality of production

2   devices connected to a control system, and comprising the steps:

3   (a) pre-producing the program by controlling at least one of the production devices to

4   establish a scene of the program;

5   (b) creating a memory object representing the state the at least one production devices

6   for the at least one scene;

7   (c) repeating steps (a) and (b) to establish a plurality of scenes for the program;

AMENDED SHEET

-16-

8   (d) producing the program by recalling the memory objects in a first sequence
9   corresponding to a desired sequence of scenes such that each production devices assumes a
10   state corresponding to the memory object.

1   8.   The method according to claim 7 further comprising the step of altering the
2   sequence of memory objects from a first sequence to a second sequence prior to production.

1   9.   The method according to claim 8 wherein the altering step is performed
2   manually by an operator.

1   10.   The method according to claim 1 wherein each memory object specifies a
2   plurality of states of an associated production device.

1   11.   The apparatus according to claim 2 wherein said at least one production device
2   include a video production switcher.

1   12.   The apparatus according to claim 2 wherein said at least one production device
2   include a digital video effects device.

1   13.   The apparatus according to claim 2 wherein said at least one production device
2   include an audio mixer.

1   14.   The apparatus according to claim 2 wherein said at least one production device
2   include a camera robotic controller.

1   15.   The apparatus according to claim 2 wherein said at least one production device
2   include a lighting controller.

1   16.   The apparatus according to claim 2 wherein said at least one production device
2   include a teleprompter.

1   17.   The apparatus according to claim 2 wherein said at least one production device
2   include a character generator.